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June 25, 1999

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

VIA MESSENGER

Magalie Roman Salas, Secretary
Federal Communications Commission
Portals II, 445 12th Street, S.W.
Washington, D.C. 20554

Re: CC Docket No. 94-102
Response to TruePosition, Inc. Ex Parte Comments

Dear Ms. Salas:

SnapTrack, Inc. ("SnapTrack"), by its attorneys, submits this response to the repeated *ex parte* filings of TruePosition, Inc. ("TruePosition") in the captioned proceeding.[1] The continual inflammatory *ex parte* filings of TruePosition have created an unnecessary flurry of *ex parte* filings outside the formal record, despite the Bureau's call for comments[2] on the issues raised by TruePosition. Indeed, all of the *ex parte* filings were made prior to the Public Notice Comment date and therefore TruePosition could have easily supplemented the record openly through the comment process. Although SnapTrack would prefer not to waste the Commission's limited time and resources to refute the factual inaccuracies of the TruePosition *ex partes,* we are compelled to respond so that the record is clear with respect to the facts surrounding SnapTrack's handset technology. Despite the fact that TruePosition was not involved in the SnapTrack GPS handset testing, TruePosition insists on inaccurately characterizing those tests in its *ex parte* filings with the Commission. Accordingly, SnapTrack responds to the most glaring inaccuracies to ensure the record accurately reflects the capabilities of handset ALI technologies and is not distorted by the self-serving mischaracterizations of TruePosition. SnapTrack notes that it has exposed its technology operating on both analog and digital networks to intense

[1] Letter from Antoinette Cook Bush, counsel for TruePosition, to Magalie Roman Salas, Secretary, FCC (May 25, 1999)("TruePosition May 25 Ex Parte"); Letter from Antoinette Cook Bush, counsel for TruePosition, to Magalie Roman Salas, Secretary, FCC (June 11, 1999)("TruePosition June 11 Ex Parte"); Letter from Jay Birnbaum, counsel for TruePosition, to Magalie Roman Salas, Secretary, FCC (June 14, 1999)("TruePosition June 14 Ex Parte");

[2] Public Notice, DA 99-1049 (rel. June 1, 1999)("Public Notice") (establishing a comment date of June 17, 1999). Reply comments are due July 2, 1999.

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scrutiny by both carriers and manufacturers, and is unaware of any other location technology that has provided a similar amount of audited field test data across such a range of air interfaces.

A primary focus of the TruePosition *ex partes* is the Tampa trials of SnapTrack technology presented jointly by Sprint and GTE at the May 5, 1999 CDMA Development Group meeting.[3] With virtually every statement, TruePosition misrepresents the capabilities, nature or scope of those tests. The tests were clearly characterized to all participants as alpha (technology) trials, and were never portrayed otherwise. All participants, including the seven carriers and four handset manufacturers, are aware that a commercial system will produce significantly different results. However, TruePosition incorrectly insists that the phones used in SnapTrack's Tampa trials made no attempt at hardware or software integration, June 14 Ex Parte at 9, even though the prototype used in the Tampa trials had tight electrical integration and substantial software integration. Frequency and time were both sent from the network to the integrated SnapTrack software, enabling the enhanced performance demonstrated to be realized. These prototypes represent the initial stages for handset vendor production of a fully-integrated handset.

Similarly, contrary to TruePosition's claim, the SnapTrack server did not repeat location attempts every 30 seconds. June 14 Ex Parte at 9. Because CDMA does not yet commercially support integrated voice and messaging, for the Tampa trial, the test group members decided that calls should made using circuit-switched data for this alpha testing. A call was established at the beginning of each session, and a new fix was started when one was completed, in order to capture the 100 or 200 fixes performed during each session. The fact that circuit-switched data was used for the Tampa trial in no way means that voice communication is not possible with SnapTrack technology, as TruePosition asserts. June 14 Ex Parte at 9. SnapTrack's technology is air-interface independent, and can use whatever data transport method is available. Further, SnapTrack does *not* require that a voice call be established *before* sending the location data. *See* June 14 Ex Parte at 11. In Tampa, the circuit-switched data transport mechanism puts data on the voice channel, therefore it was necessary to establish a call for the purposes of this particular test. However, in commercial operation, the data messages need not transmit across the voice channel. In fact, the proposed CDMA standards support sending this data over the control channel.

In the Tampa trials, the time required by the test units to acquire the satellite signals included an additional four seconds of processing time that solely represent system diagnostics and the prototype nature of the system. Accordingly, the numbers proffered by TruePosition, June 14 Ex Parte at 10, overstate the processing time by at least 4 seconds. Across a very broad range of environments typical of where cell phones are used, the Tampa processing times were 6-16 seconds. In addition, the Tampa prototypes used a 50 mips DSP; the first commercial SnapTrack-integrated DSP will be twice as powerful (100 mips), cutting the processing time approximately in half. Finally, planned software enhancements will reduce processing time even further.

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[3] TruePosition erroneously states that SnapTrack presented these results to the working group, but as TruePosition is fully aware, the presentation was made by GTE and Sprint.

TruePosition's characterization of SnapTrack accuracy is also flawed. June 14 Ex Parte at 10. In the Tampa trials, SnapTrack purposely tested a range of diverse environments in order to ascertain the performance limits of the SnapTrack technology, rather than selecting only relatively easy to locate positions in order to beef up our accuracy statistics. Again, across a very broad range of environments typical of where cell phones are used, the accuracy of the SnapTrack technology ranged from 6 meters in open areas to 96 meters in extremely difficult urban canyons. This accuracy range reflects *no tracking* – each location calculation represents an independent cold start first fix.

TruePosition concludes, based on its fallacious assumptions, that an integrated GPS handset solution would perform only 6 dB better than an unenhanced unit with an external antenna. June 14 Ex Parte at 11. The statement is incorrect, a point previously made in submissions both to standards bodies and to the Commission.[4] The SnapTrack system currently provides a 20 dB sensitivity improvement over conventional GPS. Motorola concluded in Tampa that their smaller antennae lose 6-8 dB compared to the reference antenna; SnapTrack is continuing antenna development and expects to develop an antenna solution that represents a 3-4 dB loss relative to the reference antenna.

It is simply untrue that carriers cannot place orders until all standards issues are resolved and integrated. June 14 Ex Parte at 12. Furthermore, the baseline text for CDMA has been accepted and currently is in the process of verification and validation, after which it will be submitted to the membership for voting, which is expected to be completed in August of this year. Based on this standards work, handset/GPS integration can proceed. Moreover, as SnapTrack has repeatedly stated, manufacturers including Qualcomm and Texas Instruments estimate that the production timeline for GPS phones is less than 18 months,[5] not two years as TruePosition claims. June 14 Ex Parte at 12. Further, two semiconductor manufacturers have informed SnapTrack that they expect to have an integrated chip completed by next summer.

TruePosition also falsely claims that EGPS currently can work only with CDMA base stations, not with analog, TDMA or GSM base stations. June 14 Ex Parte at 13. This assertion is patently untrue. As SnapTrack has demonstrated to the Bureau and on the record, SnapTrack technology works also with TDMA, analog and GSM technology.[6] For instance, the SnapTrack GPS technology is being commercialized in Japan on NTT DoCoMo's PDC (Japanese TDMA) network; the FCC staff has witnessed demonstrations of SnapTrack technology on analog; and the technology has undergone testing on GSM in Italy (audited by a carrier), Finland (audited by a manufacturer), and in the U.S. (audited by the U.S. Marine Corps).

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[4] *See, e.g.,* SnapTrack February 25, 1999 Comments at Exh. A.

[5] *See* Texas Instruments Comments at 2; QUALCOMM Press Release (SnapTrack February 25, 1999 Comments, Attachment B)

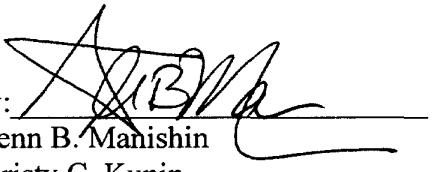
[6] SnapTrack June 17, 1999 Comments at 25.

SnapTrack and the seven carrier members of the STCTG chose to blank the cellular antenna during the Tampa trial specifically to test the interface and investigate the possibility of reducing the snapshot size; SnapTrack also is investigating filter options for eliminating negative impacts of interference. Most SnapTrack testing is not done using this blanking process, and thus TruePosition inaccurately concludes that a GPS receiver "must" utilize such a blanking process. June 14 Ex Parte at 13.

Finally, SnapTrack estimates that the total incremental cost of adding SnapTrack functionality to the handset will be in the $5-10 range initially in high volumes, including materials and licensing fees; this number is expected to drop sharply with increased volume and the continuing impact of Moore's Law. Thus, the cost estimate presented by TruePosition overstates the SnapTrack estimates by more than 100%. June 14 Ex Parte at 15.

The myriad inaccuracies contained in the TruePosition ex partes serve only to divert the Bureau's attention from the true issue before it—whether carriers should have the option of selecting a handset-based technology for Phase II ALI compliance. Ultimately, the performance capabilities of any ALI technology will be tested in the marketplace. SnapTrack merely asks the Bureau to establish guidelines that will ensure that its rules are technologically neutral so carriers can select among competing ALI technologies. If, as TruePosition posits, ALI capable handsets cannot be commercialized or are unable to perform acceptably, their absence will not relieve carriers of their obligations under this proceeding. If, however, TruePosition is incorrect, the presence of competing ALI solutions will result in lower cost and more rapid availability of all ALI technologies, serving both the public and public safety.

Respectfully submitted,



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